Collective Impact

for

Environmental Conservation

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Photo: Judy Smith

By:

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Executive Summary/Abstract

This paper introduces Collective Impact and illustrates its application in two separate environmental conservation/restoration projects within the Chesapeake Bay Watershed.

"Collective Impact" (CI) is a form of adaptive management that involves cross-sector collaboration across public, private, and non-profit organizations. Adaptive management techniques are usually applied in complex situations where the problem itself may not be fully understood. It provides an opportunity to reduce uncertainty over time and is frequently used to not only change a system, but to learn about the system in the process. Many environmental issues facing us today are so complex, with an array of contributing factors, that an adaptive management approach is warranted.

Collective Impact builds on the adaptive management approach; it too is usually applied to complex problems that have many contributing factors and may not be fully understood. What makes CI unique is that it involves organizations from all aspects of the solution space (public, private, non-profit), that have chosen to abandon their personal agendas and commit to a common agenda for solving a particular social and/or environmental problem.[1] This goes beyond just common goal setting, CI leverages the strengths and experiences of each organization to different aspects of the problem in order to achieve an impact greater than any one of them could achieve alone.

This paper sheds light on this new management technique in hopes that organizations seeking to begin conservation and/or restoration efforts will consider employing it. Funding organizations are beginning to realize the collective benefits that can be gained from such techniques, and are interested in seeing more projects attempt to apply the concepts. While it can be difficult to obtain multi-year grants, and cross-sector partnerships are still uncommon, more and more funders are embracing this approach.

The two projects presented in this paper have both been partially funded by the Virginia Environmental Endowment, and both exist within the Chesapeake Bay Watershed. The Learning Barge project has built and now operates a self-sustaining floating classroom that includes a live wetland, composting toilets and rainwater filtration system. The Envision the James project reached out across the many residents, businesses, and governing bodies of the entire James River watershed to develop a common vision of a restored James River, and is now using that vision as a guidepost around which to rally the restoration and conservation efforts of the river. Both projects employed Collective Impact techniques to achieve their initial successes, and continue to exhibit its characteristics in their ongoing work. As a result of employing these techniques, both projects achieved greater success than they would have had they attempted isolated approaches to their problems.

[1] John Kania and Mark Kramer, "Collective Impact," Stanford Social Innovation Review, Winter 2011, accessed July 8,

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Introduction

Collective Impact CI) is an adaptive management process that uses the abilities and strengths of its participants to achieve results that are more comprehensive than anything a single entity could achieve on its own. This paper introduces Collective Impact (CI) and presents two environmental conservation efforts underway within the Chesapeake Bay Watershed as case studies to illustrate its benefits.

The Learning Barge and Envision the James are environmental conservation projects currently underway within the Chesapeake Bay Watershed and exhibiting characteristics of Collective Impact.

Collective Impact (CI) is becoming a preferred adaptive management technique for complex environmental problems that require cross-sector (public, private, and non-profit) collaboration. Adaptive management techniques are usually applied in situations where the problem itself may not be fully understood, and focuses on learning and adapting through partnerships.[2] CI allows participants to develop a deeper understanding of the problem, project team and the resources they bring to the table, and leads to emergent solutions that may not have been foreseen as the project unfolds.

The two case studies presented here were partially funded by the Virginia Environmental Endowment (VEE). The Virginia Environmental Endowment's mission is to improve the quality of the environment by using its capital to encourage all sectors to work together to prevent pollution, conserve natural resources, and promote environmental literacy.

VEE, like other funding organizations, has previously supported a number of collaborative and innovative partnerships and has begun to recognize the value of projects that implement Collective Impact. As the reader will learn in this paper, CI's unique approach is particularly effective at increasing understanding and creating solutions to complex problems. Because of its success to date, Collective Impact is of great interest to those who fund environmental conservation projects.

Both the Learning Barge and the Envision the James case studies were selected because they provide good examples of projects that encompass the characteristics of CI. Interestingly, neither project intentionally applied Collective Impact at the outset, but rather did so intuitively because of the nature of the problem, the solutions sought, and the variety of participants.

As you will see, these projects are in various phases of implementation, and have applied Collective Impact throughout. The intention of this paper is to provide the reader with enough information to understand Collective Impact and its benefits, and to recognize where this approach might be employed within current or future projects.

[2] "Adaptive Management Technical Guide," Department of Interior. Adaptive Management Working Group, accessed July 3, 2013, http://www.doi.gov/initiatives/AdaptiveManagement/TechGuide.pdf

Collective Impact

"Collective Impact" (CI) is a form of adaptive project management that involves cross-sector collaboration across public, private, and non-profit organizations. Adaptive management techniques are frequently applied in complex situations where the problem itself may not be fully understood. It provides an opportunity to reduce uncertainty over time and is frequently used to not only change a system, but to learn about the system in the process. Many environmental issues today may not be fully understood, or are so complex due to the number of contributing factors, that an adaptive management approach is warranted in order to deal with this complexity and to create a learning, flexible atmosphere for change.

Collective Impact builds on the adaptive management approach; it too is usually applied to complex problems that have many contributing factors and may not be fully understood. What makes CI unique is that it involves organizations from all aspects of the solution space (public, private, non-profit), who have chosen to abandon their personal agendas and instead commit to a common agenda for solving a specific social and/or environmental problem.[3] This goes beyond just common goal setting, CI leverages the strengths and experiences of each organization to different aspects of the problem in order to achieve an impact greater than any one of them could achieve alone.

One example of a complex situation that may not be fully understood is the Chesapeake Bay Watershed (CBW) which faces many issues related to its overall health, economy, and future. The CBW has a variety of organizations that are dedicated to preserving its economic value, improving the quality of the water, and restoring the health of the organisms that live within and around it. Despite this support and resources, its health still wanes and its recovery and economic interests are threatened. A variety of different initiatives and projects are being undertaken in different parts of the watershed. Many are coordinated through the regional Bay partnerships and some are isolated attempts at improving specific aspects of the bay's health. These isolated projects (usually with limited cross-sector collaboration and a single focus) are frequently successful at achieving the goals they have set, and can represent small wins for a select portion of a watershed. However, with a system as complex as the CBW, it is becoming more obvious that solving isolated parts of the problem, while they may have local benefits, may not make much of a long term difference unless all parts of the problem can be improved in some measure, as parts of the problem build off one another. A collective impact approach to the CBW may be the best way to improve the overall health of the Bay, by coordinating all of the various efforts across the watershed.

Preconditions of Collective Impact

Three conditions usually exist prior to attempting any collective impact initiatives. These preconditions create the atmosphere and help fuel the motivation needed to get organizations, who have never worked together before, to get behind the project and stay actively involved.[4] The three preconditions are the presence of an influential champion; a strong sense of urgency for change; and adequate financial resources to lay the foundation for Collective Impact.

[3] John Kania and Mark Kramer, "Collective Impact," Stanford Social Innovation Review, Winter 2011, accessed June 18, 2013, http://www.ssireview.org/articles/entry/collective_impact.

[4] Fay Hanleybrown, John Kania & Mark Kramer. "Channeling Change: Making Collective Impact Work." Stanford Social Innovation Review, 2012, accessed June 18, 2013, http://www.ssireview.org/blog/entry/channeling_change_making_collective_impact_work.

Influential Champion

Every Collective Impact project should have a champion who is able to inspire a sense of urgency and convey the vision for change in a hopeful way that encourages belief in its possibility. This champion believes in the mission of the project, and works to create alignment and commitment across all of the participating organizations. He/she also works to inform and inspire people who may not be part of the project yet, or who may benefit from its success. The champion is also frequently instrumental in securing funding for the project and may even work with government officials or others to clear obstacles or create momentum to address issues that may arise.

Urgency for Change

Is there a situation that has reached a point where organizations are willing to try something new that may make a difference in a problem or circumstance where other attempts have had limited or no success? Is there an environmental or social crisis that requires something bold and new to make a change that so far has been unattainable? Usually it takes this sense of urgency for organizations to willingly set aside their own agendas, work with organizations they might not have ever considered working with, and agree to a common vision to bring about the needed change. This sense of urgency helps build commitment to the shared agenda, and help solidify a shared vision for change. This shared vision will be what helps glue the team together as the Collective Impact initiative evolves.

Financial Resources

Funding a Collective Impact initiative is sometimes difficult due to the nature of traditional grant-making. Grants are often relatively small, and are generally provided to single organizations to achieve a specific objective over a set period of time. Collective Impact initiatives usually require funding that will spread out over a few years, in order to cover the setup of the project's infrastructure and planning activities, which may not provide specific identifiable results when the grant is sought.[5] It is a good idea to try to secure funding from each of the sectors represented in the project (public, private, and non-profit), if possible. This gives a breadth of coverage and could help to spread the funding over different phases of project activity.

Characteristics of Collective Impact Initiatives

There are five specific characteristics or conditions that typically exist across Collective Impact projects. These five characteristics work together to produce strong direction, alignment, and commitment within the project team.

The five common characteristics of Collective Impact include:[6]

- Common Agenda
- Shared Measurement Systems
- Mutually Reinforcing Activities
- Continuous Communication
- Backbone Support Organization

[5] Fay Hanleybrown, John Kania & Mark Kramer. "Channeling Change: Making Collective Impact Work." Stanford Social Innovation Review, 2012, accessed June 18, 2013, http://www.ssireview.org/blog/entry/channeling_change_making_collective_impact_work.

[6] John Kania and Mark Kramer, "Collective Impact," Stanford Social Innovation Review, Winter 2011, accessed June 18, 2013, http://www.ssireview.org/articles/entry/collective_impact.

There are examples of successful Collective Impact projects that demonstrate less than all five of these characteristics, but for greatest efficiency and impact, they should all exist in some measure.

Common Agenda

The common agenda is a shared vision for change. A compelling vision that all participating organizations can see themselves contributing to through agreed upon actions.[7] This requires a common understanding of the problem to be solved, which is not always obvious. Defining the common agenda is where personal agendas can sometimes interfere, and where uncertainty can cause conflict when trying to define the problem and vision for change. It is not required for everyone to agree on every aspect of the problem, and sometimes there are unknowns, but the vision for change and the goals of the project as a whole must be agreed upon by all participating organizations. This shared vision for change establishes alignment and codifies the commitment of the participating organizations.

It is important to note that the common agenda is not about developing a joint vision of a solution to a problem, but rather it is about achieving a common understanding of the problem to be solved, and agreeing on common goals to address it.[8] It is this common set of goals, instead of an intended solution, that allows the greatest flexibility for the contributing organizations and creates the environment for emergent solutions to manifest.

Shared Measurement System

A shared measurement system provides the means for measuring progress toward the shared goals and helps define the ways success will be measured and reported. Participating organizations decide upon common indicators to measure progress and success, which are then reported by each organization as their work unfolds. An invaluable effect of developing shared measures is that it leads to a common language for the project team. This common language reinforces the understanding of the shared goals by applying measures to the aspects of the problem that are most important or perhaps will generate the most impact. This common language also encourages more collaborative problem solving and enables ongoing learning that gradually increases the effectiveness of all participating organizations.[9]

Once identified, the shared indicators are frequently tracked in a web-enabled tool that allows participating organizations to look at results in many different ways. This enables transparency and accountability, provides opportunities to learn from mistakes and successes, and allows for corrective action, if necessary, throughout the lifecycle of the program.

Mutually Reinforcing Activities

One of the unique approaches of Collective Impact initiatives is the development of, and commitment to, a mutually reinforcing plan of action to achieve the goals set by the common agenda. This plan of action is determined by the participating organizations and does not prescribe that each participant must do the same thing. On the contrary, it is meant to provide a flexible, coordinated plan that allows each organization to determine its own approach to the problem, allowing them to apply their resources in the best way to achieve maximum impact. Each contributing organization applies their skills, knowledge,

[7] John Kania and Mark Kramer, "Collective Impact," Stanford Social Innovation Review, Winter 2011, accessed June 18, 2013, http://www.ssireview.org/articles/entry/collective_impact.

[8] John Kania and Mark Kramer. "Embracing Emergence: How Collective Impact Addresses Complexity." Stanford Social Innovation Review, 2013, accessed June 23, 2013, http://www.ssireview.org/blog/entry/embracing_emergence_how_collective_impact_addresses_complexity

[9] Fay Hanleybrown, John Kania & Mark Kramer. "Channeling Change: Making Collective Impact Work." Stanford Social Innovation Review, 2012. accessed June 18, 2013, http://www.ssireview.org/blog/entry/channeling_change_making_collective_impact_work.

and finances in the ways that they are most effective, creating an impact greater than any one of them could achieve on their own.

Continuous Communication

Given the cross-sector nature of most Collective Impact initiatives, continuous communication is essential for developing trust between public, private, and non-profit organizations, which may not be accustomed to working together.[10] Continuous communication is required during all phases of the project, and allows each participating organization to develop confidence that its interests and contributions will be recognized and considered.

Regular, facilitated meetings with the group as well as other forms of communication, such as web-based document sharing and reporting on the metrics, can keep dialogues flowing between participants and build shared trust. Sharing successes and failures along the way provides all of the players with opportunities to learn and to congratulate or commiserate with others working on similar problems.

Backbone Support Organization

The backbone support organization is the enabler of all of the other aspects of Collective Impact. The size of the backbone organization can be large or small, depending on the needs of the project. Sometimes this is a single person, and at other times it could be a completely independent separate organization that focuses solely on managing Collective Impact initiatives. Regardless of its size, the backbone organization tends to support Collective Impact initiatives over the life of the project in six general ways:[11]

1. Guide vision and strategy
2. Support aligned activities
3. Establish shared measurement practices
4. Build public will
5. Advance policy
6. Mobilize funding

The backbone organization is frequently viewed as a 'nice to have' addition to the Collective Impact project, and not a required component. This perspective is based on the assumption that successful collaboration can occur without a dedicated staff to support it, which is certainly possible in some instances, but for complex adaptive problems that tend to need a CI approach, a backbone organization is a necessary ingredient for success. The level of collaboration, coordination, and governance required to establish Collective Impact across multiple sectors on a complex adaptive problem is most effectively achieved with a dedicated backbone staff, and should not be considered optional.

Whatever the size of the backbone organization, it must provide adaptive leadership to the project team in addition to its other functions. This includes an ability to apply pressure to participants where needed without alienating them, and to present issues to the group in a compelling manner that will not threaten them, but rather reveal opportunities for change.

[10] John Kania and Mark Kramer, "Collective Impact," Stanford Social Innovation Review, Winter 2011, accessed June 18, 2013, http://www.ssireview.org/articles/entry/collective_impact.

[11] Shiloh Turner, Kathy Merchant, John Kania & Ellen Martin. "Understanding the Value of Backbone Organizations in Collective Impact: Part 2" Standford Social Innovation Review, July 17, 2012, accessed June 10, 2013. http://www.ssireview.org/blog/entry/understanding_the_value_of_backbone_organizations_in_collective_impact_2

Phases of Collective Impact

Research suggests there are three specific phases a project goes through to as it establishes the characteristics mentioned previously.[12] The three phases of a Collective Impact project are:

- Initiate Action
- Organize for Impact
- Sustain Action and Impact

Initiate Action

The first phase of a CI project is where the project is conceived and the initial planning takes place. Project champions and cross-sector partnering organizations are identified, community outreach avenues are established, and baseline data is collected and analyzed to help crystalize the initial understanding of the issues that are driving the need for change.[13] Prior or existing projects that may provide insight into the problem are also identified and reviewed. Data that has been generated through these existing activities may be especially useful to providing a deeper understanding of the problem, developing the common agenda, and establishing a viable team structure that would include credible participating organizations.

Organize for Impact

In this phase, the CI project team organizes itself for maximum impact. Participating organizations work together to define the common agenda by focusing on reaching a common understanding of the problem to be solved and agreeing on joint goals to address the problem[14]. Shared measures are then identified to track progress and share learning as the participants work on the common agenda. It is also during this phase that the backbone organization is identified or formed, and the project's supporting infrastructure is put in place in order to facilitate efficient implementation of the project and to establish avenues for continuous communication.[15]

Sustain Action and Impact

As the project activities identified by the common agenda and joint goals get underway, this phase allows the various participating organizations to do what they do best, and work on the parts of the solution that they have identified. This is also where the data collection and reporting takes place, and the active learning and course correction activities occur. Although it may take several years, or even decades, this phase is sometimes seen as the place where actual change occurs. This is the ongoing activity, monitoring, reporting, and adapting that takes place until the desired outcome is achieved.

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[12] Fay Hanleybrown, John Kania & Mark Kramer. "Channeling Change: Making Collective Impact Work." Stanford Social Innovation Review, 2012, accessed June 18, 2013, http://www.ssireview.org/blog/entry/channeling_change_making_collective_impact_work

[13] Ibid.

[14] John Kania and Mark Kramer. "Embracing Emergence: How Collective Impact Addresses Complexity." Stanford Social Innovation Review, 2013, accessed June 23, 2013, http://www.ssireview.org/blog/entry/embracing_emergence_how_collective_impact_addresses_complexity

[15] Fay Hanleybrown, John Kania & Mark Kramer. "Channeling Change: Making Collective Impact Work." Stanford Social Innovation Review, 2012, accessed June 18, 2013. http://www.ssireview.org/blog/entry/channeling_change_making_collective_impact_work

Collective Impact for Environmental Conservation

Two case studies are presented here to provide the reader with some tangible examples of projects that are already applying Collective Impact to conservation efforts. Both of the examples provided have been funded in part by the Virginia Environmental Endowment, and both operate or reside within the Chesapeake Bay Watershed.

As you will see in the case studies that follow, each is in a different phase, and each has a different mix of the characteristics, but they both represent successful applications of Collective Impact.

Case Study 1: The Learning Barge

Project Background

The Elizabeth River is one of the most polluted tributaries of the Chesapeake Bay due to past dumping of industrial waste, and current storm water runoff that carries soils, fertilizers, pesticides and metal directly into the river.[16] With a high-level of port activity, including several ship-repair facilities, a navy base, and the largest coal-exporting facility in the world, the river has experience extremely high levels of polycyclic aromatic hydrocarbons (PAH), which led to an abnormal frequency of cancer rates in bottom-dwelling species. Taking this into account, the Elizabeth River Project sought to engage the community in the improvement of the rivers' ecosystems. The Learning Barge was envisioned to provide a means for the community to observe the river's restoration efforts and become directly engaged in its' environmental stewardship.

The Learning Barge is an ongoing education effort that was launched as part of the Sustainable Revitalization Plan to garner stewardship for the Elizabeth River,[17] by building an understanding of the link between human activities and the river's ecology.[18] It is a self-sustaining floating classroom that includes a live wetland, composting toilets and a rainwater filtration system.

The Learning Barge exhibited all three preconditions of Collective Impact. The urgency for change was the need to engage the community in environmental stewardship to improve the Elizabeth River's ecosystems. The Learning Barge had an initial influential champion, who wrote the Sustainable Revitalization Plan, gathered cross-sector partners, and brought university students and faculty, and an array of other organizations together to conceptualize and build the barge, and to develop its curriculum.

The Learning Barge initiative met the final precondition, adequate funding, from the beginning. Initial funding was provided by the Virginia Environmental Endowment, the Elizabeth River Project, and included other organizations in the private, nonprofit and public sectors. In addition to this initial funding, the Learning Barge received donations from Dominion Virginia Power and Lowe's Charitable and Educational Foundation, along with several government grants.[19] Ongoing outreach efforts to secure financial resources are conducted by ERP, which seeks to not only acquire additional funding, but also more sponsorships.[20]

Phases of Development

The Learning Barge provides a multi-layered Collective Impact example, in that each phase of its evolution has represented a CI effort in and of itself, and when put together, these phases illustrate mutually reinforcing activities that have led to greater success than would have been achieved if attempted in isolation.

The Learning Barge initiative consists of four phases of development. Each phase consisted of cross sector collaborators working toward the common agenda. The figure below describes each phase, its objective and project team.

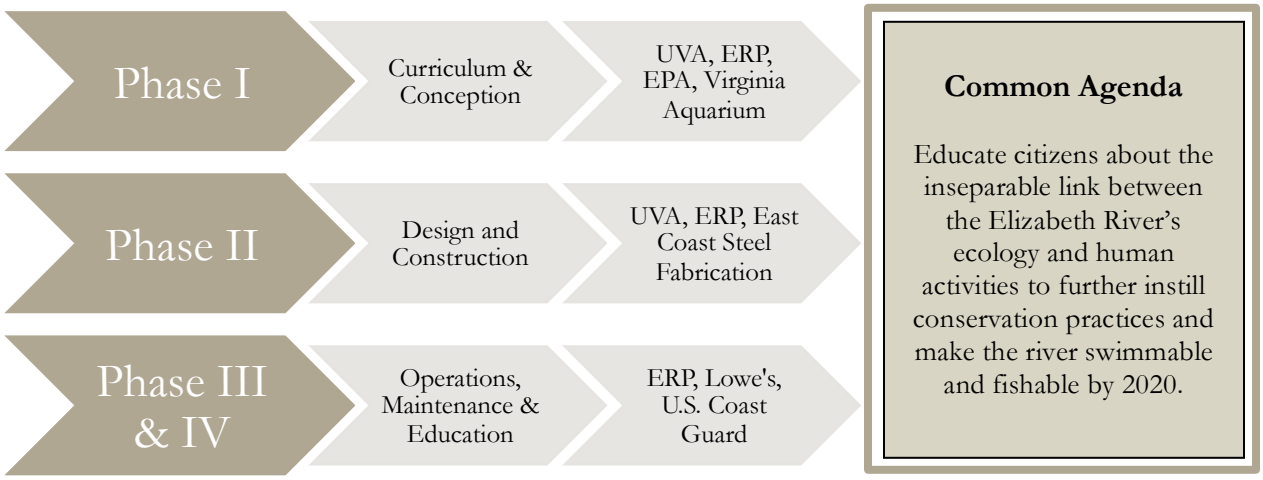
[16] LikeMinded,"The Elizabeth River Project - an environmental collective impact initiative," 2013, accessed June 19, 2013, http://archive.likeminded.org/project/the-elizabeth-river-project-an-environmental-collective-impact-initiative

[17] Ibid.

[18] Professor Phoebe Crisman. "The Learning Barge: Architecture Working for the Environment." University of Virginia School of Architecture, 2013. P9.

[19] Robin Dunbar, "The Learning Barge," Green Teacher: Education for Planet Earth, Fall 2011: Issue 94, accessed July 3, 2013, http://www.elizabethriver.org/PDFs/LearningBarge/GreenTeacher%20article.pdf

[20] Marjorie Mayfield Jackson, email message to Jeremy Orr, July 1, 2013.



Phases of Learning Barge Development

The first phase was that of curriculum development, which brought in a variety of initial collaborators, each bringing their curricular goals and environmental education activities to create comprehensive lesson plans. They pursue a new educational curriculum every year and develop content accordingly.[21]

The second phase ran concurrently with phase one. The phase two-project team conceived and built the Learning Barge with the objectives of using sustainable materials and processes. Its construction allows it to harness energy from the sun and wind, filter rainwater and grey water in a contained bed wetland, and to recycle a variety of other materials.[22]

The third and fourth phases consist of the operation of the barge itself, and its ongoing maintenance, along with outreach to K-12 teachers and students. These two phases correlate with the Sustain Action and Impact phase of Collective Impact, where the actual social change occurs. Ongoing funding is sought and secured through a variety of methods and partners.

Characteristics of Collective Impact

Common Agenda

The Learning Barge's common agenda is to educate citizens about the inseparable link between the Elizabeth River's ecology and human activities, and to further instill conservation practices that will contribute to making the river swimmable and fishable by 2020.[23] All entities involved in operating and maintaining the Learning Barge today continue to move toward this common agenda. Whether through funding, vessel operation, or ongoing curriculum development, each partner contributes to the common agenda by leveraging its organizational strengths and resources.[24]

[21] Professor Phoebe Crisman. "The Learning Barge: Architecture Working for the Environment." University of Virginia School of Architecture, 2013. P175.
[22] Ibid.
[23] Ibid.
[24] Phoebe Crisman, "The Learning Barge: Architecture Working for the Community and Environment," Seeking the City: Visionaries on the Margins, 2008, accessed July 3, 2013, http://www.learningace.com/doc/5888961/e9d2338d0140490c4e798ffc01519d4e/crisman_the_learning_barge_acsa

Shared Measurement Systems

The Learning Barge uses a variety of shared measurements to assess the program's success. These include the number of participants in educational activities, water quality, and the number of species present at docking sites.

Along with the number of people that participate in its educational activities, the Learning Barge also considers feedback from students and teachers about the effectiveness of the program so they can make curriculum adjustments. ERP also considers the amount of schools that participate in the River Stars Schools program, which ensures the Elizabeth River ecosystem is included in the curriculum by choosing an environmental project that has a positive impact on the river.[25]

Awards and publications are additional indicators of the program's success. Appendix B provides a listing of some of the Learning Barge awards earned to date.

Mutually Reinforcing Activities

The Learning Barge has evolved through its phases by identifying mutually reinforcing activities for each participating organization. Each of these phases, in turn, were mutually reinforcing to the common agenda.

For instance, in the research and construction phase of the vessel, University of Virginia students collaborated with members of the Hampton Roads, VA, community, maritime engineers and designers, education professionals, the steel industry, and the Elizabeth River Project, highlighting cross-sector partnerships among the private, public and nonprofit sectors.[26]

In the curriculum development phase, several of the partnering organizations specialized in conservation education. They worked collaboratively within their specialties to agree on a theme and make sure the activities could build upon one another.[27]

In the last two phases, various organizations continue to work together leveraging their unique capabilities to instruct the target audiences, perform outreach and keep the vessel afloat and operating. Consisting of an array of private industries, along with organizations from the public and nonprofit sectors, these organizations have provided material and time to assure the continuation of the barge's program.[28]

Continuous Communication

For the Learning Barge, open communication is very dynamic with no standard way of communicating between organizations. Aside from an annual banquet for participating organizations, partners stay in touch with both the Barge and its backbone organization, the Elizabeth River Project, via phone, emails, and periodic visits to its headquarters.[29]

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[25] Elizabeth River Project, "River Star Schools," accessed September 10, 2013. http://www.elizabethriver.org/RiverStars/RiverStarsSchool.aspx

[26] Elizabeth River Project: Swimmable, Fishable 2020, "Learning Barge," accessed June 28, 2013, http://www.arch.virginia.edu/learningbarge/pdfs/barge%20trading%20cards.pdf

[27] Professor Phoebe Crisman. "The Learning Barge: Architecture Working for the Environment." University of Virginia School of Architecture, 2013. P56-57.

[28] Ibid. P113.

[29] Marjorie Mayfield Jackson, email message to Jeremy Orr, July 1, 2013.

During the construction and design phases of the project, University of Virginia students communicated their research design initiatives through competition boards and writing up reports for award programs. Not only did this allow for the building of mutual objectives, but it also demonstrated, to the students, effective communication with a diverse group of stakeholders.[30] This is a good example of external communications and building trust within the community.

Backbone Organization

The Elizabeth River Project (ERP) serves as the backbone organization for the Learning Barge. It coordinates the activities of the partnering organizations, and aligns them around the Barge's common agenda. ERP, in support of the Learning Barge initiative, additionally seeks sponsorship and funding from public and private organizations, and conducts public outreach to ensure all three sectors continue to be represented.

Project Status

The Learning Barge is presently operating in the Elizabeth River and surrounding areas providing learning experiences to those who visit. Between 2009 and 2013, the Barge has had 17,000 K-12 students visit for both field trips and summer camps. It has also provided access and education to 11,000 other visitors, adding up to nearly 30,000 visitors in 3 years.[31] Teachers have been asked to rank the program out of 1-10 and consistently rank it a 10.[32]

Collective Impact and The Learning Barge

This case study illustrates how the Learning Barge applies Collective Impact to improve the environmental health of the Elizabeth River. It continues to engage multiple project participants working towards ongoing sustainable operations and improved education programs for its visitors. At the outset, the Learning Barge possessed all of the preconditions for Collective Impact. This included an influential champion, a sense of urgency for change to help the engage the community in improving the Elizabeth Rivers' ecosystems, and adequate financial resources to construct the barge and ensure its ongoing success in delivering quality educational experiences. All of the Collective Impact characteristics are represented in the Learning Barge project in varying degrees, and the barge's successes can be seen and experienced throughout its operating area, which extends all the way to the mouth of the Chesapeake Bay.

[30] Phoebe Crisman, "Making Connections: Environmental + Social Action Through Design," accessed June 29, 2013, http://crismanpetrus.us/publications/pdfs/Crisman_P_2008_Making_Connections_ACSA.pdf

[31] Elizabeth River Project: Making Restoration a Reality, "The Elizabeth River - The Learning Barge," Elizabeth River Project: Making Restoration a Reality, accessed July 11, 2013, http://www.elizabethriver.org/projects/the_learning_barge.aspx.

[32] Professor Phoebe Crisman. "The Learning Barge: Architecture Working for the Environment." University of Virginia School of Architecture, 2013. P150.

Case Study 2: Envision the James

Project Background

The historic James River is a tributary of the Chesapeake Bay, comprising roughly 10% of the Bay's watershed.[33] The Envision The James (ETJ) project began in response to declining health indicators and increased population within the James River watershed. The goal of the Envision The James initiative is:

> *"To achieve a shared vision and on-going commitments from communities and partners throughout the James River Basin to value, sustain, and enhance the region's natural and cultural heritage, local economies, wildlife abundance, and outdoor recreation assets for present and future generations."*

Though the goal is clearly stated, the problem itself represents a complex conservation issue that is only partially understood, and thus requires an adaptive management approach. The problem is complex not only due to the delicate environment they seek to restore, but also because of a number of factors including multiple jurisdictions, variety of stakeholders, size of land area, mix-use along the tributaries, variety of flora and fauna and historic value, just to name a few. By engaging citizens who live, work or play in the James River watershed a groundswell of support is being created for sustaining and enhancing the James River. This groundswell spans factors, particularly the confines of jurisdictional control, and has provided the Envision The James project an opportunity to create a more comprehensive approach to improving the James River.

Collective Impact is an appropriate management style for the Envision the James initiative, in part, because it meets all of CI's preconditions. The two influential champions were the Chesapeake Conservancy and the James River Association. The Chesapeake Conservancy is a Chesapeake Bay-wide organization with a vision for managing the Bay's great rivers and JRA is a strong local organization with deep roots in the James River watershed. Working collectively, the two organizations were positioned to influence at both the regional, multi-state level as well as across the local levels that are in the James River watershed. A third partner, National Geographic Maps, brought its national reputation to the project.

The urgency for change stems from the declining health of the James River and the increased population within its' watershed. Envision The James also meets the third precondition as it has successfully secured adequate, cross-sector financial resources that spans multiple years.

The Envision the James project was initially funded by four organizations, whose makeup is consistent with that of a cross-sector Collective Impact team. The four funding organizations are: The U.S. Fish and Wildlife Service (USFWS) representing the public sector; the Virginia Environmental Endowment (VEE) representing the non-profit grant-making sector; and the New Market Corporation and MeadWestavco Foundation representing the private sector. Each organization provided an initial grant to help get the project underway.

VEE and USFWS funding was used to cover the costs of initiating the project and the infrastructure needed to set the initial shared vision and manage the development of the vision for the James. These activities correlate nicely with the first phase of Collective Impact, the Initiate Action phase. The funding

[33] James River Association, "About the James River ," James River Association: Protecting America's Founding River, 2013, Accessed July 1, 2013, http://www.jamesriverassociation.org/the-james-river/about-the-james.

from the private organizations has helped sustain the project as it moves through its second and third phases. As the project progresses, the Envision the James team also intends to initiate additional rounds of financing activities, aimed at securing more funding from the private sector in addition to its existing sources.

Phases of Development

The Envision the James project is unfolding in three phases, which align nicely to the phases of Collective Impact. The three phases of the ETJ project include: 1) develop the vision framework; 2) develop more detailed local plans; and 3) begin implementation of the common vision.[34]

Table 1 below provides insight into how the phases that have been identified for Envision The James map to the typical phases of Collective Impact.

ETJ Phase	ETJ Phase Description	Collective Impact Phase	CI Phase Description
Phase 1: Develop the Vision Framework	Frame potential themes, Identify/develop surveys, Develop web platform, test/refine concepts, secure the connector trail extension of the Captain John Smith trail, define vision for James River	Initiate Action	Identify key players and organizations to include. Define data sets and activities needed to establish project processes. Evaluate similar, prior activities that may provide guidance or best practices
Phase 2: Develop More Detailed Local Plans	Establish working groups to engage communities and partners, Identify most significant river corridor enhancement actions, communicate an integrated vision for the James, provide technical assistance and support	Organize for Impact	Develop processes for partner organizations and stakeholders to work together. Define the common agenda and shared measures to aid in defining mutually reinforcing activities. Establish the backbone organization(s) and avenues for continuous communications[35].
Phase 3: Begin Implementation of the Common Vision	Develop and support partnerships and collaborations. Implement identified projects. Monitor and report against shared metrics (internally) and to wider watershed audience (externally)	Sustain Action and Impact	Support the implementation of planned activities. Continue to engage with community and conduct advocacy. Monitor, track, and report progress (learn and adapt)

Envision the James Project Phases

[34] Joseph Maroon. Personal interview. Arlington, July 12, 2013.

[35] Fay Hanleybrown, John Kania & Mark Kramer. "Channeling Change: Making Collective Impact Work." Stanford Social Innovation Review, 2012, accessed June 18, 2013, http://www.ssireview.org/blog/entry/channeling_change_making_collective_impact_work

Phase one created the infrastructure for a website developed by National Geographic to support surveys and data collection which helped develop and communicate the shared vision for the James River. This shared vision is the common agenda for the Envision the James and its partners.

Phase two, currently underway, includes designing a shared measurement system based on the common agenda established in phase one and identifying projects that will move the effort toward its vision. Some of the metrics currently used in the Chesapeake Bay and other regions are being explored to see whether they can be adapted to the James River (and other tributaries within the Bay watershed).

It is anticipated that phase three will include the implementation of data collection based on the metrics determined in phase two, analysis of those metrics and the continued expansion of the network of partners involved. This will also be the phase where one of the two the backbone organizations, the Chesapeake Conservancy, will use the CI strategies developed for Envision the James and adapt them to other major tributaries in the Chesapeake Bay Watershed. While each version of the "Envision" projects will differ, a common agenda and shared metrics, as demonstrated in the Envision the James, will be key components to their success.

Characteristics of Collective Impact

Common Agenda

The common agenda was developed by the Envision the James team as part of phase 1 by hosting numerous public meetings and conducting web surveys to create a shared vision that represented the voices of the many stakeholders who live, work, and play within the James River watershed. The four themes that emerged include: Recreational Trails and River Access; Heritage and Geo-tourism; Conservation and Restoration; and Wildlife.

These themes led to a vision and common agenda: to actualize, through carefully chosen projects, clean and accessible waterways, restored streamside vegetation, improved wildlife habitat, local economies benefiting from tourism and recreation, and the celebration of culture and heritage, and protected landscapes.[36]

Through ETJ's public and private sector outreach, and in order to fulfill this vision, two core initiatives were identified. The James River Heritage and Recreation Corridor Initiative covers features such as historic plantations, sites on the National Register of Historic Places, river access sites, Virginia Scenic River, and Navigable Waterways. The James River Wildlife and Landscape Conservation initiative addresses the water quality of the James River and the conservation of wildlife habitat, and other landscapes of cultural significance, all of which were high on the priorities developed from the community based surveys and partner meetings.

Shared Measurement Systems

The Envision the James project developed its vision during its first phase, and is now identifying the metrics by which to measure success as they move into the next phase where projects will be identified for implementation. Since the James River is in the Chesapeake Bay Watershed, the Envision the James project is considering the Chesapeake Bay's current metrics to see if they are applicable and transferrable

[36] "Envision the James," last modified 2013, http://www.envisionthejames.org/detail/a-vision-for-the-james-river-watershed/evjFAF6D2DF5405AC641

to the James River and other major tributaries within the Bay.[37] The Chesapeake Bay Foundation issues an annual State of the Bay report, which uses 13 indicators to grade the state of the Chesapeake Bay much like a school report card.[38] These 13 indicators all fall into three categories: Pollution, Habitat and Fisheries. Envision the James project will likely begin with similar categories in an effort to ensure that metrics gathered for the project can be used to demonstrate progress in the James River watershed and will also relate to the broader health of the Chesapeake Bay.

Mutually Reinforcing Activities

The ETJ project provides an excellent example of how mutually reinforcing activities can be used throughout a project's lifecycle to generate collective impact. During phase one, each partnering organization applied its strengths to develop the vision for the James through mutually reinforcing activities.

National Geographic Maps brought its graphics and story-telling strengths to bear, and created interactive maps to combine specific locations to their stories, photos, and historical events. This type of multimodal engagement helps give the public a sense of being at the location as they read and move through the website which is meant to spark imagination and excite people about the James River and its potential.

The James River Association (JRA) works with corporations, local governments, farmers, landowners, individuals and state and national agencies to address water quality[39]. For Envision the James, JRA provided local outreach, and developed stories and content for the website that helped spark memories and touch hearts and minds of residents and business owners across the watershed. Its mission is to improve and protect the James River through education, restoration and advocacy, and it continues to perform as a leading organization that works directly with the James River Watershed stakeholders.

The Chesapeake Conservancy (CC) is a nonprofit organization that is dedicated to ensuring conservation, stewardship and access to the Chesapeake Bay.[40] In support of phase one of the Envision the James project, CC provided technology, GIS mapping and analysis, survey tools, and social media support to help pull together the efforts of the other participating organizations. It continues to support the project by performing as a support organization and integrator of all of the various resources that are brought to the project by its participants.

As the project moves into phases two and three, these organizations will continue to identify and apply mutually reinforcing activities to help the ETJ partners meet the common agenda.

Continuous Communication

The Envision the James project provides continuous communication along two fronts: internal communication across the project team's participating organizations, and external communications across the entire James River watershed community and stakeholders. Communication along both fronts is continuous and multi-modal.

[37] David Burke. Personal phone interview. July 9, 2013.

[38] "2012 State of the Bay Report - Chesapeake Bay Foundation," Chesapeake Bay Foundation, Saving a National Treasure, January 2, 2013, accessed June 30, 2013, http://www.cbf.org/about-the-bay/state-of-the-bay/2012-report.

[39] "What Is the JRA? | JRA," James River Association, Protecting America's Founding River, 2013, accessed July 14, 2013, http://www.jamesriverassociation.org/about-jra/what-is-the-jra.

[40] "Vision and Mission," Chesapeake Conservancy, accessed July 9, 2013, http://www.chesapeakeconservancy.org/Vision-and-Mission.

Internal communications typically consist of monthly scheduled meetings, and frequent, sometimes daily communications between the participating organizations. Meetings are held in person, by phone, or use web technology for video teleconferencing. Meetings and daily interactions involve tracking project status, adjusting priorities, and identifying and mitigating any risks or issues that come forward within the project team. The Chesapeake Conservancy, in its role as the internal backbone organization, schedules most meetings, sets the agenda, and keeps notes.

For external communications, an Envision the James website was developed to help inform the public and collect input. During phase 1, this website provided an online version of the survey and now provides the results of the survey as well as other material to keep the public informed and motivated to stay involved. The ETJ website continues to be used for external communication to outside stakeholders such as the citizens who live within the watershed as well as any corporations who may be interested in getting involved. The ETJ web portal will soon be undergoing a major overhaul to help stimulate additional interest in the two core initiatives developed during the visioning process.

In addition to the website, the ETJ project team uses many other forms of outreach, including social media (Facebook and Twitter) and periodic public meetings to share success stories and project status, written materials (such as a newsletter), and the Chesapeake Conservancy website.[41]

Backbone Organization

The Envision the James project has dual backbone organizations. The Chesapeake Conservancy acts as the internal backbone organization and the James River Association is the external backbone organization. Such a framework is not common, nor is it required, but for this project, such a structure was appropriate and necessary to achieve greatest success. As discussed below, this approach presents a particularly interesting application of CI which may lead to greater impact across a larger footprint than just the James River.

The Chesapeake Conservancy, as the internal backbone organization, has personnel dedicated to the Envision The James project. These staff members perform all of the internal backbone activities required to support the project and the project team, including supporting the aligned activities of the group, guiding of the strategic planning and implementation, establishing and managing the shared measurement systems, and facilitating internal communications. The Chesapeake Conservancy, however, is not necessarily a well-known organization to the James River Watershed residents or businesses. Because the ETJ requires public support and action, a known local presence is needed to handle the externally facing aspects of a backbone organization. The James River Association has creditability as an advocate for the James River and so it was selected as the externally facing backbone organization.

James River Association (JRA) staff focuses on activities that are necessary for the outreach campaign and interaction with citizens, local policy officials, businesses and funders. As the external backbone organization, JRA manages the public interactions, such as scheduling the community status meetings and the development and delivery of communications to the wider James River watershed community. To the public, due to its outward facing backbone activities, the James River Association is perceived as the project's organizer and sole backbone organization. This is by design because the entire initiative is meant to feel like a local community project.

The Envision the James project is the first of many that the Chesapeake Conservancy hopes to participate in and support as an internal backbone organization. If successful, the dual backbone approach taken with the ETJ project is to be used as a model for similar efforts. The Chesapeake Conservancy, as the

[41] David Burke. Personal phone interview. July 9, 2013.

functioning internal backbone organization for ETJ, has learned from its experience and continues to make adjustments in its operations to optimize its performance.

As similar efforts are identified, the Chesapeake Conservancy is now strategically positioned and uniquely qualified to stand up similar efforts rapidly and efficiently, merely by identifying another local externally facing backbone organization to partner with. For example, an "Envision the Susquehanna" project is already underway with a similar vision and organizational structure.[42] By building capacity for future projects that follow the same structure/process, leveraging the experience of all other projects that went before, the Chesapeake Conservancy will soon be positioned to enable "Envision the …" projects across other major tributaries in the Chesapeake Bay Watershed, leading to greater scales of adaptive learning for all participants and greater environmental change for the entire Bay.

Project Status

Currently in phase two, the Envision the James project is determining its shared measurement system. Facilitated by monthly meetings collaborators will ultimately create a set of shared indicators that will allow partners to contribute their organization's strengths and resources in order to achieve the common agenda. In phase three, which is concurrently underway, partners have begun implementing programs and measurement tools to help meet the common agenda that was created in phase one.

As the current initiatives are developed, it is likely the stakeholder involvement may change. If, however, the Envision the James project continues to leverage the Collective Impact model of allowing each player to do what they do best, changing the stakeholders to align with the desired outcome will only strengthen the program.

Collective Impact and Envision the James

Although still in its infancy, Envision the James has already demonstrated some of the best-practices of Collective Impact. The preconditions were present from the beginning. The urgency to change the environmental and economic health of the river created the environment in which the influential champions could pull the project contributors and the wider stakeholders to define and articulate the vision for the James River. The diverse nature of the initial funding helped to get it off the ground, and the ongoing cross-sector representation in funders will help insulate the project from future economic instability.

The characteristics of Collective Impact are evident in one form or another, or are developing as the project moves through its phases. The common agenda was developed and set in the first phase by the surveys and meetings that helped shape the vision for the James River. By using the Chesapeake Conservancy as the infrastructure backbone and the James River Association as the backbone organization for the public, the Envision the James has already embraced the mutually reinforcing activities aspect of Collective Impact. As the shared measures are identified and projects are initiated to enact the vision, the common language of this problem set will evolve and provide a platform for continual learning.

The ETJ project warrants close observation because, although it has effectively applied Collective Impact in its initial phases, ETJ has the potential to create breakthrough understandings in the environmental issues of the James River, and the entire CBW if CI continues to be applied.

[42] "Envision the Susquehanna", Chesapeake Conservancy, accessed July 13, 2013 http://www.chesapeakeconservancy.org/Envision-the-Susquehanna

Parting Thoughts

Throughout this paper we have been discussing Collective Impact as a tool for diverse organizations to collaborate and solve complex social and environmental problems. We have also discussed the vision and intention of Collective Impact, which can help bring solutions to complex problems to light.

The Learning Barge and the Envision the James projects, highlighted in this paper, are both in Virginia and within the CBW. They are both Virginia Environmental Endowment (VEE) funded projects and showcase a successful use of the Collective Impact approach.

Collective Impact necessitates three preconditions: having an influential champion, a sense of urgency for change and adequate financial resources. If these exist, an adaptive strategy, such as Collective Impact, should be utilized. Both of the case studies met these preconditions and display admirable Collective Impact qualities. Although they vary in their breadth and depth in their usage of the CI characteristics, both projects included examples of the five conditions of Collective Impact which are: establishing a common agenda; creating a shared measurement system; having mutually reinforcing activities; allowing open and continuous communication; and utilizing a backbone organization. These case studies demonstrate collaboration between the public, private, and nonprofit sectors, an essential ingredient in Collective Impact and a foundation for other organizations to learn from while developing their own projects.

In parting, the best wisdom we can leave you comes directly from Collective Impact's founders John Kania and Mark Kramer who said:[43]

> *"To be successful in collective impact efforts we must live with the paradox of combining intentionality (that comes with the development of a common agenda) and emergence (that unfolds through collective seeing, learning, and doing). For funders, this shift requires a different model of strategic philanthropy in which grants support processes to determine common outcomes and rules for interaction that lead to the development of emergent solutions, rather than just funding the solutions themselves."*

[43] John Kania and Mark Kramer. "Embracing Emergence: How Collective Impact Addresses Complexity." Stanford Social Innovation Review, 2013, accessed June 23, 2013, http://www.ssireview.org/blog/entry/embracing_emergence_how_collective_impact_addresses_complexity

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Appendix A- Learning Barge Partners

The following tables highlight the partners during each phase of the Learning Barge.

Phase One: Curriculum Development

Organization(s)	Role(s)	Sector(s)
National Oceanic and Atmospheric Administration (NOAA) and Nauticus museum	1. Maritime culture and history 2. Weather 3. River ecology	Public/private
Environmental Protection Agency (EPA)	1. Increase public awareness regarding environmental issues 2. Help people understand how actions affect environment 3. Provide skills to citizens to make informed decisions	Public
Chesapeake Bay Foundation (CBF)	1. Reveal relationship between residents and waters of the Chesapeake Bay to improve water quality	Non-Profit
Virginia Naturally (Virginia Department of Conservation and Recreation)	1. Liaison between students and Virginia's environmental education resources	Public
Virginia Aquarium	1. Increase knowledge of Virginia's marine environment 2. Inspire commitment to marine preservation	Public/private partnership
Hampton Roads teachers	1. Partnered with ERP and UVA to develop curriculum	Public/non-profit partnership
Elizabeth River Project	1. Provide river ecology education to public and schoolchildren 2. Educate the public on the Elizabeth River's key challenges	Non-Profit

Phase Two: Green Construction

Organization(s)	Role(s)	Sector(s)
Phoebe Crisman (UVA) **Michael Petrus** **Crisman-Petrus Architects**	1. Lead designers 2. Lead architects 3. Design firm 3. Crisman also designed Sustainable Revitalization Plan	Public/Private
UVA School of Architecture (architecture and engineering students) **Curry School of Education PhD students**	1. Project design and architecture 2. Assisted with the Sustainable Revitalization Plan	Public
Paxton Marshall (UVA engineering professor)	1. Engineering director 2. Provided guidance for students to design mechanical systems	Public
Elizabeth River Project	1. Collaborated with Phoebe Crisman throughout project development 2. Assumed ownership of Barge when completed	Non-Profit
Whitney Odell (UVA) **Farhad Omar (UVA)**	1. Lead engineers	Public
Dennis Moler (Moler and Associates: Consulting Structural	1. Structural engineer	Private

Engineers)		
Eric Matherne (Matherne Marine Design)	1. Marine designer 2. Naval architect 3. Reviewed compilation of construction documents	Private
East Coast Steel Fabrication, Inc.	1. Shipbuilder	Private
Altenergy **DTI Solar** **Skanska** **Yacht Systems Services**	1. Construction and design consultants	Private
Andrew Daley (UVA)	1. Construction manager 2. Architect	Public
Danielle Willkens (UVA) **Kelley McConnaha (UVA)**	1. Co-Project Managers 2. Architects	Public

Phase Three: Operations & Maintenance

Organization(s)	Role(s)	Sector(s)
BAE Systems Norfolk Ship Repair	1. In water winterization 2. Built/installed 20-ton ballast benches 3. Miscellaneous upgrades/repairs	Private
Colonna's Shipyard	1. Bottom maintenance, including painting and haul-out, every two years	Private
Crofton Diving	1. Dives to survey Barge's bottom zincs	Private
Earl Industries, LLC	1. Painting 2. Routine maintenance 3. Advisory services	Private
Ireland Marine	1. Tugs the vessel to different river restoration sites	Private
Matherne Design	1. Barge hull design 2. Maintenance oversight	Private
Robbins Maritime Inc.	1. Occasional tug service	Private
Virginia Ship Repair Association	1. Provides maintenance apprenticeship classes 2. Below deck, interior painting	Non-Profit
Lowe's	1. Donates supplies	Private
U.S. Coast Guard	1. Provides certification based on weight and passenger capacity (initial and every 5 years)	Public/Military

Appendix B--Awards for The Learning Barge

Thus far, the Learning Barge has received the following design/construction awards:

- 2007 Virginia Go Green Honor Award for Unbuilt Architecture (presented by the James River Green Building Council)
- 2007 Youth Council for Sustainable Science and Technology P3 Design Award (presented by the American Institute of Chemical Engineers)
- 2007 EDRA/Place Planning Award: To Crisman+Petrus Architects for the Money Point Sustainable Revitalization Plan and the Learning Barge (presented by the journal Environmental Design Research Association and Places)

Other notable achievements of the Learning Barge:

- 2007 US EPA P3 Sustainability Award (earned in a competition at Washington, D.C.'s National Mall)
- 2008 22nd Annual Excellence on the Waterfront International Award (issued by The Waterfront Center)
- 2011 Environmental Excellence Award (presented by Seaworld/Busch Gardens)

The recipients of the first Learning Barge Steward Ship awards are (presented by Elizabeth River Project for excellence in maintaining the vessel):

- BAE Systems
- Colonna's Shipyard
- Crofton Industries
- Ireland Marine
- MHI Ship Repair and Services
- Marine Chemist Atlantic, Inc.
- Matherne Marine Design, Inc.
- Nauticus Foundation
- Capt. J. William Cofer/Norfolk Tug Company
- Robbins Maritime, Inc.

Our scope is global, as we strive to affect systemic environmental, economic, and social change to benefit the worldwide commons. Our diverse backgrounds afford us the ability to better comprehend problems afflicting the international arena and to effectively design and apply measures for their resolution.

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